

## TWO NEW SPECIES OF *CONVOLVULUS* L. (CONVOLVULACEAE) FROM SOUTH AUSTRALIA

R.W. Johnson

Queensland Herbarium, Meiers Road, Indooroopilly, Qld 4068

### Summary

Two species of *Convolvulus*, *C. eyreanus* and *C. microsepalus* are described as new. They are currently known only from South Australia.

In preparing an account of *Convolvulus* for the Flora of South Australia (Johnson 1986), two taxa, which appeared to be undescribed, were segregated from the highly variable material grouped under *C. erubescens* Sims. Prior to the publication of Flora Australiensis Vol. IV (Bentham 1869), eight native taxa had been recognised but Bentham chose to incorporate this variation within *C. erubescens*. This species was originally described from a plant of New South Wales origin cultivated in 1806 in the Royal Botanic Gardens, Kew. Since the release of the Flora of South Australia, type specimens of most of these taxa have been studied and none is representative of the two taxa described in this paper.

***Convolvulus eyreanus*** R.W. Johnson, **sp. nov.** affinis *C. clementii* Domin, sed foliis sericeis et lobatis minus profunde. **Typus:** South Australia: Lake Frome East, ca 40 km ENE of Frome Downs Homestead, 23 Jul 1971, *N.N. Donner* 3531 (holo: AD; iso: Altona Springs, Oshkosh *n.v.*).

Planta perennis. Caules repentes et volubiles, dense sericei. Folia simplicia; lamina ovata ad oblonga, acuta ad rotundata, mucronulata, margine serrato ad parvilobo, basi lobis saepe plus prominentibus, 10-30 mm longa, 8-16 mm lata, utrinque dense sericea. Inflorescentia axillaris, cymosa; pedunculus gracilis, 12-22 mm longus, 1-(2-3) floribus; bracteolae anguste triangulares ad subulatae, 1-3 mm longae; pedicellus 1-10 mm longus. Sepala exteriora concava, obovata ad obovato-elliptica, rotundata ad obtusa, apiculo brevi recurvato, 4-5.5 mm longa; interiora obovata, abrupte acuminata, 3.5-4.5 mm longa. Corolla infundibuliformis, albida ad rosea, 6-8 mm longa, limbus 8-9 mm latus, praeter pilosum apicem taeniarum meso-petalinarum glabra. Stamina 5; filamenta leviter inaequalia, 2-2.3 mm longa, 1.8-2 mm supra basin corollae inserta. Ovarium ovoideum, 2-loculare; stylus 2.7-3 mm longus, stigmata duo linearia 1-1.4 mm longa. Capsula globularo-ovoidea, basi styli persistenti, 2-locularis, 6-7 mm alta, basi circumscissa, bivalvis, dissepimento persistenti. Semina 4, alto-brunnea, 3.5-4 mm longa, glabra, verrucosa, ala angusta, interrupta in marginibus exterioribus.

Perennial plant with trailing and twining, sericeous stems. Leaves simple; blade ovate to oblong, acute to rounded, mucronulate, with a serrate to shallowly-lobed margin, the basal lobes often more prominent, 10-30 mm long, 8-16 mm broad, densely sericeous on both sides. Inflorescence axillary, cymose; peduncle slender, 12-22 mm long, bearing 1, rarely 2 or 3 flowers; bracteoles narrowly triangular to subulate, 1-3 mm long; pedicels 1-10 mm long. Outer sepals concave, obovate to obovate-elliptic, apex rounded to obtuse with a short recurved apiculum, 4-5.5 mm long; inner sepals obovate, abruptly acuminate, 3.5-4.5 mm long. Corolla funnel-shaped, off-white to pink, 6-8 mm long, limb 8-9 mm diameter, glabrous except for some appressed hairs at the tip of the mid-petaline bands. Stamens 5; filaments slightly unequal in length, 2-2.3 mm long, affixed 1.8-2 mm above the base of the corolla. Ovary ovoid, 2-locular; style 2.7-3 mm long, bearing 2 linear stigmas 1-1.4 mm long. Capsule globular-ovoid with a persistent style base, 2-locular, 6-7 mm high, circumscissile at the base, splitting into 2 valves with a persistent dissepiment. Seeds 4, dark brown, 3.5-4 mm long, glabrous, verrucose, with a narrow, interrupted wing on the outer margins. **Fig. 1A-C.**

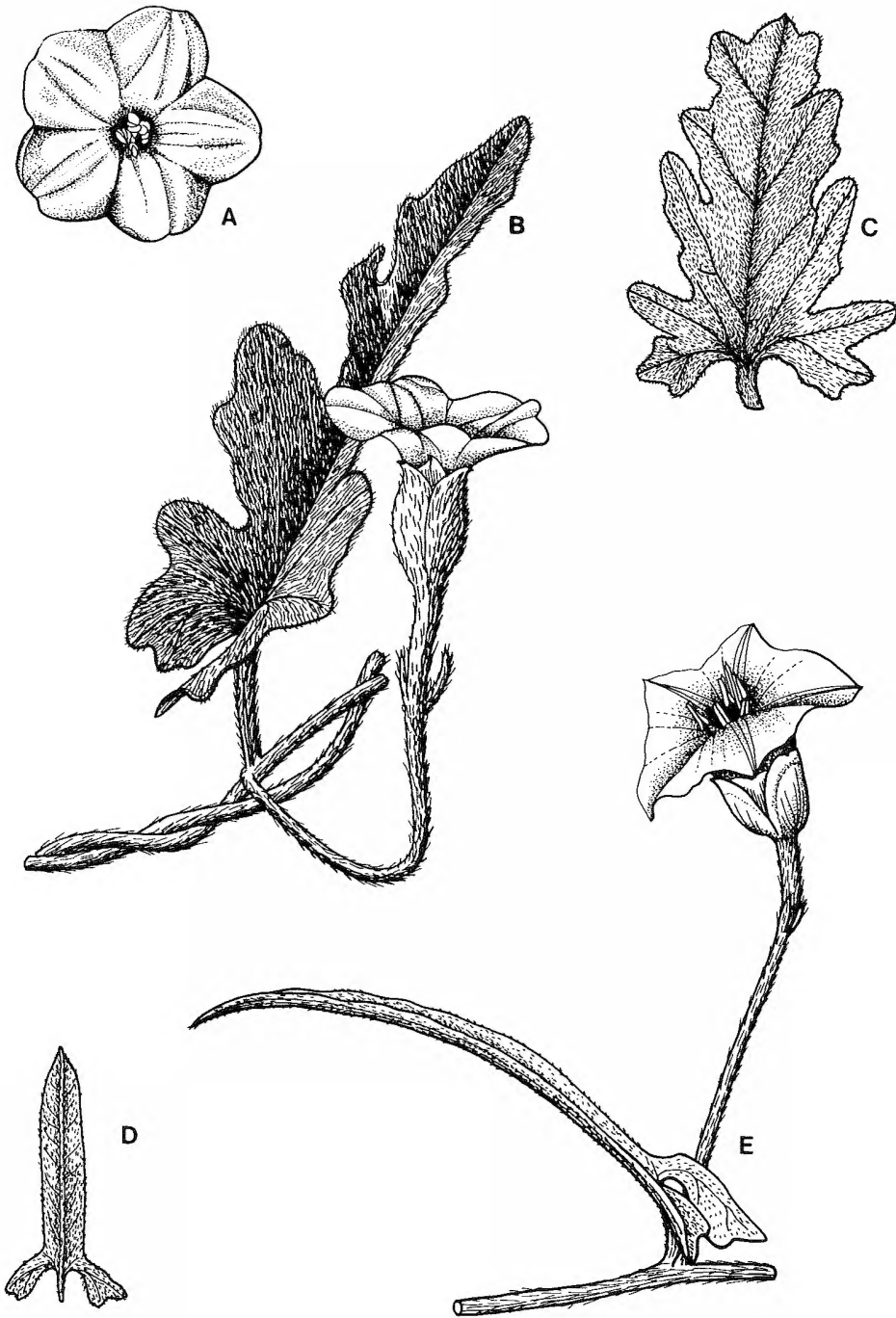


Fig. 1. *Convolvulus eyreanus*: A. Corolla showing limb and throat  $\times 4$ . B. Inflorescence and subtending leaf  $\times 4$ . C. Leaf  $\times 2$ . C. *microsepalus*: D. Leaf  $\times 2$ . E. Inflorescence and subtending leaf  $\times 4$ .

**Selected specimens.** South Australia. LAKE EYRE REGION: Far NE, Birdsville track, Mt Gason Bore ca 250 km NE of Marree, Sep 1960, *Filson* 3330 (AD, MEL *n.v.*); Ca 30 km NW of Muloorina H.S., Sep 1963, *Hill* 1170 (AD); Callanna, Sep 1966, *South Australian Pastoral Board* s.n. (AD); Central Hunt Peninsula, just N of Muloorina H.S., Sep 1968, *Cornwall* 109 (AD). GAIRDNER-TORRENS REGION: Mulgaria [30°14'S, 137°39'E], Aug 1955, *South Australian Pastoral Board* s.n. (AD). FLINDERS RANGE REGION: Ca 8 km W of Yadlakina Dam, ca 30 km NW of Leigh Creek, Nov 1964, *Lothian* 3385 (AD). EASTERN REGION: Lake Frome East, ca 40 km ENE of Frome Downs Homestead, Jul 1971, *Donner* 3531 (AD); Lake Frome East, Billeroo Creek Area, ca 45 km ENE of Frome Downs Homestead, Jul 1971, *Whibley* 3455 (AD).

**Distribution:** It occurs throughout the north-eastern parts of South Australia in the basins of Lake Eyre, Lake Torrens and Lake Frome.

**Ecology:** It has been recorded from sand dunes and on gibber plains in desert regions.

**Flowering and Fruiting:** Flowering occurs mainly in spring and early summer but flowers can occur at most times of the year. Fruiting begins in the late spring.

**Affinities:** It most closely resembles *C. clementii* Domin but is clearly distinguished by its dense silvery indumentum, and more serrate and more shallowly-lobed leaves. It differs from *C. erubescens* Sims in having much smaller flowers, with petals less than 10 mm long. In the northern parts of the Eyre and Yorke Peninsulas is a form with small, serrate, silvery leaves which may prove taxonomically distinct.

**Etymology:** The specific epithet refers to the name Eyre in Lake Eyre and the Eyre region of South Australia, both named in honour of Edwin John Eyre (1815–1901), explorer.

**Convolvulus microsepalus** R.W. Johnson, *sp. nov.* affinis *C. remoto* R.Br., sed sepalis multo parvioribus, emarginatis et glabris. **Typus:** South Australia, Flinders Ranges: ca 51 km N of Quorn on the Quorn to Hawker road, 8 Nov 1970, *A.E. Orchard* 2626 (holo: AD; iso: NCU, COLO *n.v.*).

Planta perennis. Caules repentes et volubiles, modice ad sparsim piliferi; pili breves, appressi. Folia simplicia; lamina linearis ad anguste triangularis, acuta ad obtusa, basi auriculata ad sagittata, lobis basi integris vel bidentatis, 10–50 mm longa, 3–20 mm lata, indumentum idem atque in caule. Inflorescentia axillaris; pedunculus gracilis, 8–16 mm longus, flore solitario; bracteolae anguste triangulares ad lineares, 0.7–1.5 mm longae; pedicellus 3–8 mm longus. Sepala exteriora concava, lata ovata, apice rotundata, ± emarginata, 2–2.5 mm longa, 2–3 mm lata, glabra; interiora similia sed parum parviora. Corolla infundibuliformis, alba vel erubescens, 6–8 mm longa, ± glabra. Stamina 5; filamenta leviter inaequalia, 1.8–2.2 mm longa, 1–1.5 mm supra basin corollae inserta. Ovarium ovoideum, 2-loculare; stylus 1.5–2 mm longus; stigmata duo linearia, 1.2–1.7 mm longa. Capsula globulosa, basi styli persistenti, 2-ocularis, 6–7 mm alta, basi circumscissa, bivalvis, dissepimento persistenti. Semina 4, alto-brunnea ad mellea, 2.5–4 mm longa, glabra, verrucosa.

Perennial plant with trailing and twining, moderately to sparsely hairy stems; hairs short, appressed. Leaves simple; blade linear to narrowly triangular, acute to obtuse, auriculate to sagittate at the base, basal lobes entire or 2-toothed, rarely with a secondary pair of ascending teeth or lobes, 10–50 mm long, 3–20 mm broad, indumentum as for the stems. Inflorescence axillary; peduncle slender, 8–16 mm long, bearing a solitary flower; bracteoles subulate to linear, acute, 0.7–1.5 mm long; pedicel 3–8 mm long. Outer sepals concave, broadly ovate, rounded, ± emarginate at the apex, 2–2.5 mm long, 2–3 mm broad, glabrous; inner sepals similar in shape but slightly smaller. Corolla funnel-shaped, white or pink, 6–8 mm long, ± glabrous. Stamens 5; filaments slightly unequal in length, 1.8–2.2 mm long, affixed 1–1.5 mm above the base of the corolla. Ovary ovoid, 2-ocular; style 1.5–2 mm long, bearing 2 linear stigmas, 1.2–1.7 mm long. Capsule globular with a persistent style base, 2-ocular, 6–7 mm tall, circumscissile at the base, splitting into 2 valves, leaving a persistent dissepiment. Seeds 4, dark brown to honey-coloured, 3.5–4 mm long, glabrous, verrucose. **Fig. 1D–E.**

**Specimens examined.** South Australia. LAKE EYRE REGION: 1 km S of Paradise Creek, ca 40 km S of Marree, Apr 1978, *Badman* (AD). NULLARBOR REGION: Nullarbor National Park, Murrawijinie Caves, Aug 1980, *Donner* 7173 (AD). FLINDERS RANGE REGION: 8ml [12.8 km] E of Wilmington, Mar 1959, *Filson* 809 (MEL, AD); ca 16 km N of Hawker, Apr 1966, *Copley* 192 (AD); Oak Park Homestead, ca 50 km S of Yunta, Mar 1969, *Pfeiffer* s.n. (AD); ca 51 km N of Quorn on the Quorn to Hawker road, Nov 1970, *Orchard* 2626 (AD, NCU, COLO). EASTERN REGION: ca 3 km N of Curnamona Homestead, Apr 1968, *Orchard* 211 (AD); ca 6 km NE of Curnamona (Arkipena Springs road), Apr 1968, *Barker* 454 (AD). NORTHERN LOFTY REGION: Reserve between Gladstone and Laura, Nov 1920, *J.M. Black herb* (AD).

**Distribution:** It is currently known only from South Australia.

**Ecology:** It grows in chenopod shrublands on sandy plains. Indications from the few specimens collected are that it is not of common occurrence.

**Flowering and Fruiting:** The main flowering period is during the spring to early autumn but occasional flowers have been recorded at other times. Capsules are produced from the late spring onwards.

**Affinities:** It most closely resembles *C. remotus* R.Br. in leaf-shape and indumentum. However the sepals of *C. remotus* are about twice as long, are apiculate, not  $\pm$  emarginate, and are hairy. The flowers of *C. remotus* are also much larger. The sepals of *C. microsepalus* most closely resemble those of *C. arvensis* L. but the latter has a corolla at least twice as large. *C. erubescens* also has a much larger calyx and corolla.

**Etymology:** The specific epithet refers to the size of the sepals which are by far the smallest for any species of *Convolvulus* recorded from Australia.

#### References

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